

10/566530

IAP20 Rec'd PGTPTO 30 JAN 2006

CLAIMS

What is claimed is:

1. A portable electronic device comprising:

a host unit, including a display; and

a keyboard module connected to said host unit and including at least one group of keys, and said keyboard module being moveable between at least two allowable positions with respect to said host unit, wherein a first allowable position of said at least two allowable positions results in said keyboard module substantially covering said display, and wherein at least a second allowable position of said at least two allowable positions results in said display being partially exposed, wherein the display content on the display is adapted to the exposed portion of the display.

2. The device of claim 1 further comprising a holding mechanism to securely and detachably hold said keyboard module to said host unit in one of said at least two allowable positions.
3. The device of claim 2 further comprising a position sensing mechanism, said position sensing mechanism being mounted on at least one of said host unit, said keyboard module, and said holding mechanism and outputting a position signal to said host unit corresponding to one of said at least two allowable positions such that said host unit adapts a display content of said display in response to said position signal.
4. The device of claim 3 wherein said position sensing mechanism comprises an electrical connector mounted on a front side of said host unit or said holding mechanism and at least one mating connector mounted on a back side of said keyboard module and facing said front side of said host unit, said electrical connector and said at least one mating

connector engaging and disengaging with each other as said keyboard module moves between said at least two allowable positions.

5. The device of claim 4 wherein a number of said at least one mating connector is three and wherein each of said three mating connectors are positioned on said keyboard module to engage with said electrical connector at said at least two allowable positions including a first allowable position wherein said keyboard module is positioned such that substantially all of said display is covered, a second allowable position wherein said keyboard module is positioned such that a predefined portion of said display is exposed, and a third allowable position wherein said keyboard module is positioned such that substantially all of said display is exposed.
6. The device of claim 4 wherein said electrical connector and said at least one mating connector carry power to operate said keyboard module and carry input and output signals between said keyboard module and said host unit.
7. The device of claim 2 wherein said holding mechanism comprises at least one pair of a rail and a matching groove, said rail being mounted on said host unit and said matching groove being mounted on said keyboard module.
8. The device of claim 2 wherein said holding mechanism comprises at least one pair of a rail and a matching groove, said rail being mounted on said keyboard module and said matching groove being mounted on said host unit.
9. The device of claim 2 wherein said holding mechanism releases said keyboard module from said host unit when said device is subjected to an impact that may otherwise damage said device.
10. The device of claim 1 wherein said keyboard module is connectable to said host unit via at least one pair of rails which is an integral part of said host unit and a matching pair of grooves which is an integral part of said keyboard module.

11. The device of claim 1 wherein said keyboard module is connectable to said host unit via at least one pair of rails which is an integral part of said keyboard module and a matching pair of grooves which is an integral part of said host unit.
12. The device of claim 1 wherein said keyboard module includes a power source and a wireless input/output link to communicate with said host unit.
13. The device of claim 1 wherein said at least one group of keys of said keyboard module comprises at least one of:
 - a first group including at least two navigation keys;
 - a second group including an arrangement of keys in a near QWERTY arrangement;and
 - a third group including an arrangement of keys substantially similar to an arrangement of numeric keys found on a cellular telephone.
14. The device of claim 1 wherein said host unit conforms to one of a hand-held form factor and a tablet form factor.
15. The device of claim 1 wherein said keyboard module releases from said host unit when said device is subjected to an impact that may otherwise damage said device.
16. The device of claim 2 wherein said holding mechanism comprises at least one pair of a rail and a nub, said nub being mounted on said keyboard module and said rail being mounted on said host unit.
17. A method of using a portable, digital electronic device, said method comprising selectively attaching a keyboard module of said device, which includes at least one group of keys, to a host unit of said device, which includes a display, such that said keyboard module is moveable between at least two allowable positions with respect to said host

unit, wherein a first allowable position of said at least two allowable positions results in said keyboard module substantially covering said display, and wherein at least a second allowable position of said at least two allowable positions results in said display being partially exposed, and adapting the image produced on the display to the exposed portion of the display.

18. The method of claim 17 wherein a holding mechanism is used to securely and detachably hold said keyboard module to said host unit in one of said at least two allowable positions.
19. The method of claim 18 wherein the display content of said display is adapted in response to a position signal output from a position sensing mechanism mounted on at least one of said host unit, said keyboard module, and said holding mechanism.
20. The method of claim 19 further comprising engaging and disengaging an electrical connector and at least one mating connector with each other as said keyboard module is moved between said at least two allowable positions, and wherein said position sensing mechanism comprises said electrical connector mounted on a front side of said host unit or said holding mechanism and said at least one mating connector mounted on a back side of said keyboard module and facing said front side of said host unit.
21. The method of claim 20 wherein a number of said at least one mating connector is three and wherein each of said three mating connectors are positioned on said keyboard module to engage with said electrical connector at said at least two allowable positions including a first allowable position wherein said keyboard module is positioned such that substantially all of said display is covered, a second allowable position wherein said keyboard module is positioned such that a predefined portion of said display is exposed, and a third allowable position wherein said keyboard module is positioned such that substantially all of said display is exposed.

22. The method of claim 20 further comprising providing power via said electrical connector and said at least one mating connector to operate said keyboard module and providing input and output signals between said keyboard module and said host unit.
23. The method of claim 18 wherein said holding mechanism comprises at least one pair of a rail and a matching groove, said rail being mounted on said host unit and said matching groove being mounted on said keyboard module.
24. The method of claim 18 wherein said holding mechanism comprises at least one pair of a rail and a matching groove, said rail being mounted on said keyboard module and said matching groove being mounted on said host unit.
25. The method of claim 18 further comprising said holding mechanism releasing said keyboard module from said host unit when said device is subjected to an impact that may otherwise damage said device.
26. The method of claim 17 wherein said keyboard module is attachable to said host unit via at least one pair of rails which is an integral part of said keyboard module and a matching pair of grooves which is an integral part of said host unit.
27. The method of claim 17 wherein said keyboard module is attachable to said host unit via at least one pair of rails which is an integral part of said host unit and a matching pair of grooves which is an integral part of said keyboard module.
28. The method of claim 17 further comprising said keyboard module communicating with said host unit via a wireless input/output link of said keyboard module which is powered by a power source of said keyboard module.
29. The method of claim 17 further comprising inputting information into said host unit via said keyboard module using at least one of a first group of said at least one group of keys including at least two navigation keys, a second group of said at least one group of keys

including an arrangement of keys in a near QWERTY arrangement, and a third group of said at least one group of keys including an arrangement of numeric keys substantially similar to an arrangement of keys found on a cellular telephone.

30. The method of claim 17 wherein said host unit conforms to one of a hand-held form factor and a tablet form factor.
31. The method of claim 17 further comprising said keyboard module releasing from said host unit when said device is subjected to an impact that may otherwise damage said device.
32. The method of claim 18 wherein said holding mechanism comprises at least one pair of a rail and a nub, said nub being mounted on said keyboard module and said rail being mounted on said host unit.
33. A portable electronic device comprising:
 - a host unit, including a display; and
 - a keyboard module selectively connected to said host unit and including at least one group of keys, and said keyboard module being moveable between at least two allowable positions with respect to said host unit, and a holding mechanism to detachably hold the keyboard module to the host unit.
34. The device of claim 33 further comprising a position sensing mechanism, said position sensing mechanism being mounted on at least one of said host unit, said keyboard module, and said holding mechanism and outputting a position signal to said host unit corresponding to one of said at least two allowable positions such that said host unit adapts a display content of said display in response to said position signal.
35. The device of claim 34 wherein said position sensing mechanism comprises an electrical connector and at least one mating connector provided between the host unit and keyboard

module, which carry power to operate said keyboard module and carry input and output signals between said keyboard module and said host unit.

36. The device of claim 33 wherein said holding mechanism releases said keyboard module from said host unit when said keyboard module is attached thereto, and the device is subjected to an impact that may otherwise damage said device.
37. The device of claim 33 wherein said keyboard module includes a power source and a wireless input/output link to communicate with said host unit.
38. The device of claim 33 wherein said host unit conforms to one of a hand-held form factor and a tablet form factor.
39. A portable electronic device comprising:

a host unit, including a display; and

a keyboard module connected to said host unit and including at least one group of keys, and said keyboard module being moveable between at least two allowable positions with respect to said host unit, wherein a first allowable position of said at least two allowable positions results in said keyboard module substantially covering said display, and having a position sensing mechanism comprising an electrical connector mounted on said host unit or said holding mechanism and at least one mating connector mounted on said keyboard module, said electrical connector and said at least one mating connector engaging and disengaging with each other as said keyboard module moves between said at least two allowable positions.